***Kinesthetic Learner***

P17 – 263SS12 M. Avsjukevich

Mrs. Castronovo July 09, 2012

**The Water Cycle**

Lesson Plan

**Grade Level:** 4, self-contained class

**Standards:** Describe the Water Cycle. PS 2.1c, LE 6.2c,

Describe the natural processes by which water is recycled on earth (e.g., ground water, runoff).PS 2.1c

**Estimated Duration:** 45 minute lesson, with a pre-set experiment

**Students will understand the parts of the water cycle: evaporation, condensation, precipitation, and runoff.**

**Competence-3c:** Engaging students in learning

**Objectives**

* Identify the parts of the water cycle: evaporation, condensation, precipitation, run off/ground water.
* Students will describe the ways that water travels on earth.

**Key Vocabulary**

Water cycle

Evaporation

Condensation

Precipitation

Ground water/runoff

**Materials**

Salt

Markers

Warm water

Plastic wrap

Marble

Plastic bowl with flat bottom (whip cream bowl works well)

Baby food jar

Game

**Experiment:**

* Place a tablespoon of salt in bottom of plastic bowl. Fill with about 1 inch of warm water.
* Place the empty baby food jar in center of water. Cover plastic bowl with plastic wrap. Set marble on center of plastic wrap above the baby food jar. Place in a sunny spot for one day.

**Procedures**

Warm-up

* What is a cycle? *Something that goes in a circle. A bicycle has two circular tires. Something that travels in a circle is a cycle.*
* Show students a glass of water, and discuss where water comes from. Review kinds of precipitation (rain, hail, sleet, snow,etc.)

Direct Instruction

* Define the key vocabulary terms on the board and provide examples of when students may have witnessed evaporation or condensation.
* Examples of evaporation include:
  + Steam rising from a pot of water
  + Puddles that have dried up
  + Water sitting in a bowl that seems to ‘disappear’ after a few days
* Examples of condensation include:
  + Water droplets forming on the outside of your water glass
  + A foggy mirror in a bathroom
  + Foggy windows in a car
* Demonstrate the cyclical movement of water sharing a poster of the water cycle and labeling each part.
* Explain that in the experiment to follow, we will be observing a mini water cycle.

Practice

* Observe the results of the pre-set experiment: check water inside the baby food jar. Taste it to see if it’s salty. There will be fresh water. Ask students to share their ideas why the water in the jar is not salty. (The warm water from the bowl evaporated, created condensation when it hit the cool plastic wrap, traveled down the plastic wrap to the center due to the weight of the marble, and dripped into the baby food jar as precipitation. Crystals of salt should be seen in the bowl-they do not evaporate!).

Assessment1

* Ask students to demonstrate their understanding of the experiment by relating it to the parts of the water cycle (Tell where there was evaporation, condensation, and precipitation in the experiment).
* Ask students to draw a diagram and label the parts of the water cycle in the notebooks (for children in need, drawing can be modeled on the board; small post-its are good for labeling).

After learning about the water cycle, ask students to think of as many places that water might be able to go when it falls to the earth (discuss runoff, ground water in different regions). After they form a list, group these ideas into the following nine categories.

|  |  |  |
| --- | --- | --- |
| SOIL | PLANTS | RIVERS |
| LAKES | CLOUDS | OCEANS |
| ANIMALS | GROUND  WATER | GLACIERS |

They will hang on the wall around the classroom and serve as the different stations for the next portion of the lesson. Place a small, square box at each station to use as a random number cube. (*The teacher needs to make these nine cubes ahead of time according to the* [*directions found here*](http://www.math.montana.edu/~nmp/materials/ess/hydrosphere/novice/cubes.html)*.)*

The children become the rain drops (water droplets) and are **responsible for recording their own paths** of the water. They pick up one of the stations. They roll the cube at the station and record on the sentence strips where they go**. Pair students if necessary, according to their needs (children who have difficulty writing should go with those who are able to write,etc.)**

The goal is to help students understand that the patterns of the water cycle vary according to the location of the falling water droplets.

Data Analysis

After about 10-15 minutes, the teacher stops the flow of the water droplets and has them display the possible paths on the board. The students read them all and make a conclusion that there are many ways that water is recycled on earth.

Assessment 2 (continued in the notebooks).

Describe/draw 1-3 ways the water droplets travel. (Students’ sentence strips serve as scaffolding)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe/draw 2 examples of evaporation. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Describe/draw 1 example of condensation. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Closure (if time allows)

* Teach *The Water Cycle Song*: (to the tune of *She’ll Be Coming ‘Round the Mountain*)

“Water travels in a cycle, yes it does. Water travels in a cycle, yes it does. It goes up as evaporation, the clouds make condensation, it rains down precipitation, yes it does.”

Rubrics

|  |  |  |  |
| --- | --- | --- | --- |
|  | Diagram | Written Assignment | Game |
| 4. | Clear, complete, with precise labeling of all the parts of the water cycle | Descriptions are correct, complete, and neat. Vocabulary words are used correctly. | Followed most of the directions; completed the task independently. Described more than one path. /Excellent pair work |
| 3. | Clear diagram, with one error in labeling | Most of the task is completed, with no or minor errors | Acquired some assistance. Described at least one path./ Good Pair work |
| 2. | Shows confusion of some parts of the water cycle or is sloppy/unclear | Only one part is completed correctly/ some misconceptions | A lot of assistance with directions or assignment. Described at least one path. /Poor pair work. |
| 1. | Work is not done, or done incorrectly | Examples are not written or show misunderstanding | Did not participate or complete the assignment |

Sources

teachingtoday.glencoe.com/**lessonplans**/the-**water**-**cycle**

rningtogive.org/**lessons**/unit370/**lesson**2.html